REMARKS

In the Official Action mailed on **18 June 2008**, the Examiner reviewed claims 1, 3-5, 7, 8, 10-12, 14, 15, 17-19, and 21. Examiner rejected claims 3-5, 7, 10-12, 14, 17-19, and 21 under 35 U.S.C. § 112. Examiner rejected claims 1, 3-5, 7-8, 10-12, 14-15, 17-19, and 21 under 35 U.S.C. § 103(a) based on Chaudhuri et al. (U.S. Patent No. 7,194,451, hereinafter "Chaudhuri"), and Sin Yeung Lee (*"Learning Fingerprints for a Database Intrusion Detection System"*, 2002, hereinafter "Lee").

Rejections under 35 U.S.C. § 112

Examiner rejected claims 3-5, 7, 10-12, 14, 17-19, and 21. Applicant has amended the independent claims to overcome the antecedent-basis rejection. No new matter has been added.

Rejections under 35 U.S.C. § 103(a)

Examiner rejected claims 1, 3-5, 7-8, 10-12, 14-15, 17-19, and 21 under 35 U.S.C. § 103(a) based on Chaudhuri and Lee. Applicant wishes to point out the following distinctions between embodiments of the present invention and Chaudhuri as well as Lee:

First of all, the query signature in the present invention comprises textual SQL keywords and operands without literals (see paragraphs [0038-0039] of the instant application) and is **extracted** from the query itself. In contrast, the signature in Chaudhuri is an integer **derived from and then assigned to** a query (see Chaudhuri col. 7, line 61 – col. 8, line 2; and col. 4, line 62-col. 5, line 5). Moreover, Chaudhury teaches matching two queries by a brute-force text-based string comparison, which does not differentiate SQL keywords from literals in a query (see Chaudhuri col. 7, lines 54-60). The present invention, on the contrary,

8

generates a signature based on the SQL keywords with literals removed. Furthermore, the Chaudhury system groups queries with the same signatures for performance comparisons (see Chaudhuri col. 5, lines 3-5). The present invention, on the other hand, uses query signatures to determine invalid queries of SQL injection (see paragraphs [0038]-[0040] of the instant application).

Furthermore, Applicant wishes to point out that the fingerprint generation method disclosed by Lee is fundamentally different from embodiments of the present invention. The SQL injection detection system in the present invention produces a signature for a database query by retaining the textual SQL keywords contained in the query, **and removing the field names and values** in the query. Therefore, the signature in the present invention specifies a structure based on operations within the query and is **independent** of the field names and values in the query. However, the fingerprint disclosed by Lee is generated by selectively replacing **only field values, but not field names**, in a query with tokens, hence is **not independent** of the field names in the SQL query (see Lee Section 2.2, page 267-268, especially, the presence of field names "custid" and "amt" in the fingerprint).

Accordingly, Applicant has amended independent claims 1, 8, and 15 to clarify that the query signature in the present invention includes the text of SQL keywords and operands without any field name and value. These amendments find support in paragraphs [0038-0040] of the instant application. No new matter has been added.

Hence, Applicant respectfully submits that independent claims 1, 8 and 15 as presently amended are in condition for allowance. Applicant also submits that claims 3-7, which depend upon claim 1, claims 10-14, which depend upon claim 8, and claims 17-21, which depend upon claim 15, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

9

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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